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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/067,695  | 02/05/2002  | Gerhard Dressel      | DRESSEL             | 4178             |
| 7590 11/25/2003   |             |                      | EXAMINER            |                  |
| Henry M. Feiereisen<br>Suite 3220<br>350 Fifth Avenue<br>New York, NY 10118 |             |                      | PHAM, LEDA T        |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2834                |                  |

DATE MAILED: 11/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/067,695 | <b>Applicant(s)</b><br>DRESSEL, GERHARD |  |
|                              | <b>Examiner</b><br>Leda T. Pham      | <b>Art Unit</b><br>2834                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Statu**

- 1) ☒ Responsive to communication(s) filed on 7/15/03.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14-18 and 23-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-18 and 23-32 is/are rejected.
- 7) ☒ Claim(s) 33-35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 5) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 6) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Response to Amendment***

1. This office action is in response to Amendment filed on 7/15/03.
2. Claims 14 – 18, 23 - 35 are presented for examination.
3. Claims 1 – 13, 19 – 22 are canceled.

In view of amendment, the examiner withdraws the objections to the drawing.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14 – 18, 23 – 27, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denk (U.S. Patent No. 4,709,180) in view of Kondo et al (U.S Patent No. 4,912,353) further in view of Schiferl et al. (U.S. Patent No. 6,157,159).

Denk teaches an electric machine comprising a stator yoke (90), a rotor (70) spaced from the stator yoke at formation of an air gap therebetween (figure 7), a winding assembly (86) disposed at least partially in the air gap and having winding ends which form winding overhangs; and a fastening apparatus for securing the winding assembly (80), wherein the fastening apparatus includes a main body made of electrically insulating non-magnetic material (80, figure 7), said main body defined by an axis and including a cylindrical base and a plurality of webs (82) extending in the direction of the axis and projecting radially outwards from the base in a direction of the stator yoke. However, Denk fails to teach the webs with at least partial

engagement in complementary recesses in the stator yoke, and the stator yoke projects at least axially over the winding overhangs located at an end face of the electric machine.

Kondo teaches an electric machine (figure 1 – 2) having a stator core (1), webs (2) wherein the webs with at least partial engagement in complementary recesses in the stator yoke (figure 3) for providing a strong, rigid stator.

Schiferl teaches an electric machine (figure 3) having a stator (62) wherein the stator yoke (64) projects at least axially over the winding overhangs (32) located at an end face of the electric machine for reducing the stator and rotor flux leakage.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Denk 's electric machine with the webs partial engaging in the stator yoke and the stator yoke projecting axially over the winding overhangs as taught by Kondo and Schiferl. Doing so would provide a strong, rigid stator and improve the overall power density of the electric machine.

Referring to claim 15, Schiferl teaches the electric machine wherein the winding overhangs are wrapped by a bandage at least about sections thereof (figure 4).

Referring to claim 16, Denk teaches the electric machine further comprising axial cooling channels extending between the stator yoke and the winding assembly and having a cross sectional area extending substantially across the winding overhangs (figure 7).

Referring to claim 17 and 18, Denk teaches the claimed invention except for using to fastening apparatus for a superconductive electric machine, for synchronous generators. It has been held that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the

claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Referring to claim 23, Denk teaches the electric machine wherein the fastening apparatus is disposed at least partially in an air gap between the stator yoke and the rotor (figure 7).

Referring to claim 27, Denk teaches the electric machine wherein the main body has a single-piece configuration (figure 1).

Referring to claim 31, Schiferl the electric machine wherein the winding assembly is secured in place by at least one of a bandage and a casting onto the main body.

Referring to claim 32, Denk teaches the electric machine wherein the base of the main body has a closed cylinder surface in a direction toward the rotor.

1. Claims 28 – 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Denk and Smith as applied to claim 14 above, and further in view of Denk (U.S. Patent No. 4,968,911).

Referring to claim 28, the combination of Denk and Smith refs. substantially teaches the claim invention, except for the added limitation of the main body includes different segments.

Denk (U.S. Patent No. 4,968,911) teaches the main body of the fastening apparatus with the main body including different segments (figure 2) for easily and efficiently adaptable to the liquid cooling necessary to allow substantially greater power density.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the fastening apparatus for securing the winding assembly as

taught by Denk (U.S. Patent No. 4,968,911). Doing so would easily and efficiently adaptable to the liquid cooling necessary to allow substantially greater power density.

Referring to claim 29, Denk (U.S. Patent No. 4,968,911) teaches the electric machine wherein the segments have means for allowing interconnection of the segments (figure 2).

Referring to claim 30, Denk (U.S. Patent No. 4,968,911) teaches the electric machine wherein the segments are interconnected by at least one of material-based joint and form-fitting engagement (figure 2).

2. Claims 24 – 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Denk, Kondo, and Schiferl as applied to claim 14 above, and further in view of Bratschi (Swiss 587 579, the Swiss reference).

Referring to claim 24, the combination of Denk, Kondo, and Schiferl refs. teaches the claimed invention, except for the webs attached to a bandage of the winding assembly.

The Swiss reference teaches the electric machine wherein the webs (11, figure 1) have a comb-shaped configuration in the direction of the axis and include sections which are radially recessed for attachment of a bandage (12) of the winding assembly (figure 2) to secure the winding.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the fastening apparatus with the bandage attaching to the webs of the winding assembly as taught by the Swiss reference. Doing so would secure the winding assembly.

Referring to claim 25, the Swiss reference teaches the electric machine wherein the bandage has a thickness which corresponds to a height of the radially recessed sections of the webs (figure 2).

Referring to claim 26, the Swiss reference teaches the electric machine wherein the radially recessed sections of the webs as so configured as to allow an arrangement of the bandage in at least one of the wrappings selected from the group consisting of wrapping in circumferential direction and wrapping in helical configuration (figure 2).

***Allowable Subject Matter***

Claims 33 – 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. The following is an examiner's statement of reasons for allowance: the record of prior art does not teach the main body of the fastening apparatus is a cylinder surface with a net-like structure.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Response to Arguments***

4. Applicant's arguments with respect to claims 14 – 18, 23 – 33 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

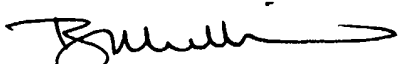
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leda T. Pham whose telephone number is (703) 305-4864. The examiner can normally be reached on M-F (7:30-5:00) first Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.

Leda T. Pham  
Examiner  
Art Unit 2834

LTP  
November 17, 2003

  
BURTON S. MULLINS  
PRIMARY EXAMINER